CLAIMS

1. Circuit arrangement for a capacitive proximity switch for the determination of an operating state and having

- a capacitive sensor element, whose capacitance (C3) changes as a function of the operating state,
- a central capacitor (C2),
- a first controllable connecting means (D2) which, as a function of a triggering signal, supplies a charging voltage (U3) to the capacitive sensor element (C3),
- a second controllable connecting means (T1) which, as a function of the triggering signal, connects the capacitive sensor element (C3) to the central capacitor (C2) for the transfer of the charge from the capacitive sensor element (C3) to the central capacitor (C2),

characterized in that the charging voltage (U3) is an a.c. voltage and the a.c. voltage can be supplied to the connecting means (D2, T1) in such a way that, in alternating manner, the first connecting means (D2) or the second connecting means (T1) is conductive.

2. Circuit arrangement according to claim 1, characterized in that the charging voltage (U3) is generated with the aid of a d.c. voltage source (U1) and a square-wave voltage source (U2) with a common reference potential, a clamping diode (D1) being looped in the conducting direction between a charging voltage node (N1) and the d.c. voltage source (U1) and a capacitor (C1) and a resistor (R1) are looped in in series between the charging voltage node (N1) and the square-wave voltage source (U2).

3. Circuit arrangement according to claim 1 or 2, characterized in that the first connecting means is a diode (D2) and/or the second connecting means is a bipolar transistor, particularly a pnp transistor (T1).

4. Circuit arrangement according to claim 3, characterized in that the base of the transistor (T1) and/or the anode of the diode (D2) is connected to the charging voltage node (N1), the cathode of the diode (D1) and/or the emitter of the transistor (T1) is connected to a filter resistor (R2) which is coupled to the capacitive sensor element (C3), and the collector of the transistor (T1) is connected to the central capacitor (C2), whose other terminal is connected to a reference voltage.

5. Circuit arrangement according to one of the preceding claims, characterized in that a switch (S1) is connected in parallel to the central capacitor (C2).

6. Circuit arrangement according to one of the preceding claims, characterized in that it has several capacitive sensor elements (C3) with each of which is associated a first and a second connecting means (D2, T1), and only has one single central capacitor (C2), which is connected in the conducting direction across in each case one decoupling diode (D4) to the particular second connecting means (T1), the anode of the decoupling diode (D4) being connected by a selection diode (D3) in the conducting direction with a selection signal (SL1, SL2, SL3).

7. Circuit arrangement according to one of the preceding claims, characterized in that the capacitive sensor element (C3) is constructed for application to an underside of a surface or a cover having dielectric characteristics and preferably has a smooth, planar surface for engagement purposes.

8. Circuit arrangement according to one of the preceding claims, characterized in that the capacitive sensor element (C3) is a voluminous, elastic, preferably elongated body of electrically conductive material.